

Substitute specification

What is claimed is:

1. A surgical reamer spindle (15, 115) which is easily disassembled for cleaning, the spindle being elongated, having first and second ends and a central housing (113, 213, 313, 314, 413, 414, 502), the housing substantially enclosing a drive train (207) and comprised of at least two housing members (113, 213, 313, 314, 413, 414), wherein at least one of the first and second ends is retained in a drive-train-enclosing relationship by a capture mechanism (455, 490, 486, 502) comprising a locking ring (455) and an elastic device (486), the locking ring biased in a locking position by the elastic device, the at least two housings being separable from one another approximately along a plane substantially parallel to a longitudinal axis (116) of the housing to permit cleaning and/or changing out of the housing members for other housing members of a different form in order to suit different surgical protocols.
2. The surgical reamer spindle of claim 1 wherein the capture mechanism (455, 490, 486, 502) further comprises a locking sleeve (482a) to which a repositionable handle (500) is attached, wherein the elastic device (486) is disposed between the locking sleeve and the locking ring so as to bias the locking ring in a locking position and to bias the locking sleeve, and thus attached repositionable handle, into a locked angular position about an axis (116) of the spindle, the locking ring aiding in holding the reamer spindle together, wherein removal of the locking ring against an elastic bias of the elastic means unfastens an end of the assembly in order to facilitate disassembly and/or cleaning.
3. The surgical reamer spindle of claim 2, wherein the locking sleeve (482a) has recesses (482c) for receiving pins (484) engaged in a shoulder (502c) fixed to the housing, the locking sleeve, and thus the adjustable handle (500), locking when the pins are received into the recesses, thereby locking the locking sleeve to the shoulder and thus to the housing.
4. The surgical reamer spindle of claim 2, wherein the locking ring (455) has at least one pin (411) affixed thereto, the at least one pin locking the locking ring in a locking position when the locking ring is biased into a bayonet recess (260, 492) by the elastic device (486).
5. The reamer spindle of claim 1, wherein the drive train (207) is selected from a group of drive trains consisting of nickel titanium drive trains, ferrous metal drive trains, flexible round wound

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cable drive trains, flat wire wound cable drive trains, gear-driven shaft drive trains, and drive trains having shafts connected via universal joints.

- 5 6. An elongated surgical reamer spindle (315) having an adjustable handle (500) which is easily disassembleable for cleaning, the spindle having first and second ends and a central housing (113, 213, 313, 314, 413, 414, 502), the housing substantially enclosing a drive train (207), wherein an lockable adjustment mechanism (450) adjustably locks the handle in angular positions about the spindle, the lockable adjustment mechanism comprising a locking ring (455) and a locking sleeve (482a) to which the adjustable handle is connected, wherein further an elastic device (486) is
- 10 disposed between the locking sleeve and the locking ring so as to bias the locking ring in a locking position and to bias the locking sleeve, and thus the handle, in a selected angularly locked position about the housing, wherein removal of the locking ring against the bias of the elastic device facilitates disassembly of the spindle for cleaning.
- 15 7. The surgical reamer spindle of claim 6, wherein the locking sleeve (482a) has recesses (482c) for receiving pins (484) engaged in a shoulder (502c) fixed to the housing, the locking sleeve, and thus the adjustable handle (500), locking when the pins are received into the recesses, thereby locking the locking sleeve to the shoulder and thus to the housing.
- 20 8. The surgical reamer spindle of claim 6, wherein the locking ring (455) has at least one pin (41) affixed thereto, the at least one pin locking the locking ring in a locking position when the locking ring is biased into a bayonet recess (260, 492) by the elastic device (486).
- 25 9. The surgical reamer spindle of claim 8 wherein the drive train (207) is selected from a group of drive trains consisting of nickel titanium drive trains, ferrous metal drive trains, flexible round wound cable drive trains, flat wire wound cable drive trains, gear-driven shaft drive trains, and drive trains having shafts connected via universal joints.
- 30 10. A surgical reamer spindle kit (600) including:
a surgical reamer spindle as claimed in claim 1 with a drive train (207) having, at one end thereof, a reamer holder (120); and
at least one matching pair of housing members (313, 314; 413, 414) adapted for receiving the drive train and constraining the drive train in an operational orientation.

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11. The surgical reamer spindle kit of claim 10 comprising at least two matching pairs of housing members (313, 314; 413, 414) of differing form, each form suitable to suit different surgical protocols.
- 5 12. The surgical reamer spindle kit of claim 10 further comprising at least one surgical reamer (1).
13. The surgical reamer spindle kit of claim 10, further comprising a femoral prosthesis (604).
- 10 14. The surgical reamer spindle kit of claim 10, further comprising an acetabular cup prosthesis (606).
15. The surgical reamer spindle kit of claim 10, further comprising an impactor (602).
- 15 16. The surgical reamer spindle kit of claim 10 further comprising a sterilization case (610).
17. A surgical reamer spindle kit (600) including:
a surgical reamer spindle as claimed in claim 6 with a drive train (207) having, at one end thereof, a reamer holder (120); and
20 at least one matching pair of housing members (313, 314; 413, 414) adapted for receiving the drive train and constraining the drive train in an operational orientation.
18. The surgical reamer spindle kit of claim 17 comprising at least two matching pairs of housing members (313, 314; 413, 414) of differing form, each form suitable to suit
25 different surgical protocols.
19. The surgical reamer spindle kit of claim 17 further comprising at least one surgical reamer (1).
- 30 20. The surgical reamer spindle kit of claim 17, further comprising a femoral prosthesis (604).

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21. The surgical reamer spindle kit of claim 17, further comprising an acetabular cup prosthesis (606).

22. The surgical reamer spindle kit of claim 17, further comprising an impactor (602).

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23. The surgical reamer spindle kit of claim 17 further comprising a sterilization case (610).